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NOV 30 2009

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Presented) A communication device for transmitting data to and receiving data from one or more other communication devices via a peer-to-peer network, wherein the communication device comprises:

means for responding ~~is arranged to respond~~ to address information broadcast by a second communication device joining said network;

means for ~~by~~ determining whether a message containing address information relating to said one or more other communication devices has previously been forwarded from the communication device to any other of said one or more other communication devices, and~~, if not,~~

means for sending said message to the second communication device depending on the determination that such message has not previously been forwarded.

2. (Currently Presented) A communication device comprising:

means for transmitting data over a peer-to-peer network; and

means for receiving data via the network;

controller means configured to respond to a detection of activity on the network by:

broadcasting address information of the communication device to one or more other communication devices; and

receiving a message sent from only one networked device of said other communication devices, the message comprising address information relating to said one or more other communication devices and extracting said address information therefrom, wherein said one networked device has not previously forwarded the message to any other of said one or more other communication devices.

3. (Currently Presented) The communication device according to claim 2, wherein the controler means is configured to respond to the broadcast of address information from a further communication device by determining whether a message containing address information relating to said one or more communication devices has been sent by the communication device to another communication device previously and, it not, sending said message to said further communication device.

4. (Currently Presented) The communication device according to claim 2, wherein the controller means is configured to broadcast address information to said one or more other communication devices if no network activity is detected.

5. (Currently Presented) The communication device according to claim 4, wherein the controller means are arranged so that, if no message is received in response to the broadcast of address information, the address information is rebroadcast periodically.

6. (Currently Presented) The communication device according to claim 5, wherein the controller means are arranged to increase a period between successive broadcasts of the address information.

7. (Currently Presented) The communication device according to

claim 1, operable in a first mode, in which a receiver ~~within said receiving means~~ is inactive, and in a second mode, in which the receiver is activated in order to receive data from said one or more other communication devices and arranged to switch from the operating in the first mode to operating in the second mode in response to a detection of activity on the network.

8. (Currently Presented) The communication device according to claim 7, configured to respond to said detection of activity on the network by determining if said activity comprises one of a wakeup signal addressed to the communication device or a broadcast wakeup signal and, if so, continuing to operate in said second mode to receive a further message.

9. (Currently Presented) A communication device according to claim 1, configured for use in a ubiquitous radio network.

10. (Currently Presented) A communication device according to claim 1, configured for use in a ZigBee network.

11. (Currently Presented) A communication device of claim 1, configured for use in a Bluetooth network.

12. (Currently Presented) A communication device according to claim 1, further comprising a sensor and means for generating and transmitting data based on the output of the sensor via the network.

13. (Currently Presented) A communication device according to claim 12, wherein said sensor is arranged to monitor one or more environmental conditions.

14. (Currently Presented) A monitoring system comprising a plurality of communication devices according to claim 12.

15. (Currently Presented) A communication system comprising a network and a plurality of communication devices according to claim 1.

16. (Currently Presented) A method of disseminating address information in a peer-to-peer network from a communication device connected to ~~a~~ the network, comprising:

receiving a message containing broadcast address information from a second communication device; and,

in response to said message, determining whether ~~a~~ the message containing address information relating to one or more other communication devices connected to the network has previously been forwarded from the communication device to any other of said one or more other communication devices and, if not, sending said message to said second communication device.

17. (Currently Presented) A method for connecting a communication device to a peer-to-peer network, comprising:

detecting activity on the network; and

in the event of an activity being detected, broadcasting address information of said communication device to one or more other communication devices connected to the network, receiving a message from only one networked device of said communication devices comprising address information relating to said one or more communication devices and extracting said address information therefrom, wherein said one networked device has not previously forwarded the message to any other of said one or more other

communication devices.

18. (Currently Presented) The method according to claim 17, comprising:

in response to broadcast of address information from a further communication device, determining whether a second message containing information relating to said one or more communication devices has been forwarded by the communication device to any other communication device and, if not, sending the second message to said further communication device.

19. (Currently Presented) The method according to claim 17, comprising, if no network activity is detected, broadcasting the address information to said one or more other communication devices.

20. (Currently Presented) The method according to claim 19, comprising, if no message is received following the broadcast of address information, rebroadcasting the address information periodically.

21. (Currently Presented) The method according to claim 20, comprising increasing a period between successive broadcasts of the address information.

22. (Currently Presented) The method according to claim 16, comprising:

operating the communication device in a first mode, in which a receiver within the communication device is inactive; and

switching to operating the communication device in a second mode, in which the receiver is activated in order to receive data

from said one or more other communication devices in response to a detection of activity on the network.

23. (Currently Presented) The method according to claim 22, comprising, in response to detection of activity on the network, determining whether said activity comprises one of a wakeup signal addressed to the communication device or a broadcast wakeup signal and, in response to a positive determination, continuing to operate in said second mode to receive a further message.

24. (Currently Presented) The method according to claim 16, further comprising receiving output from a sensor and generating and transmitting via the network data based on said output.